ONTARIO MINISTRY OF ENVIRONMENT
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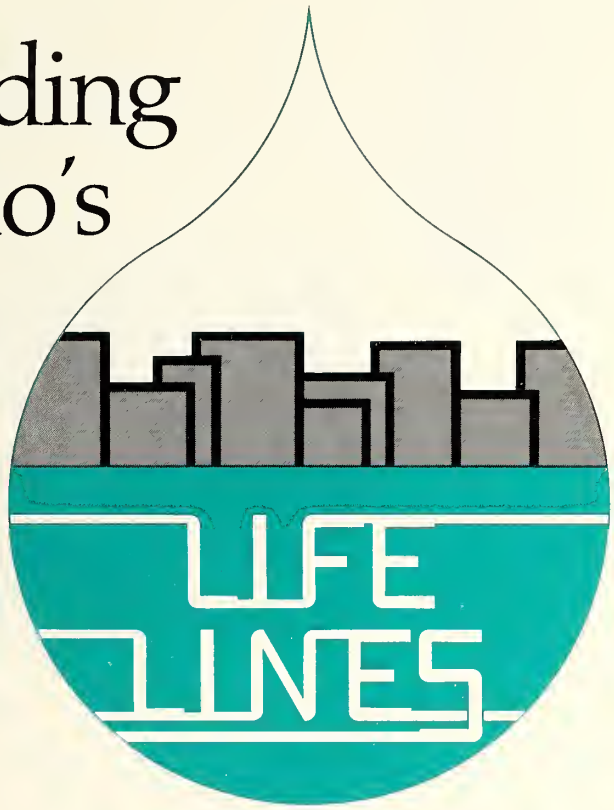
Rebuilding Ontario's Water and Sewer



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Environment Ontario

LIFELINES: A Comprehensive Water Improvement Program For Municipalities

Ontario's wealth of fresh water is at risk as contemporary society produces more and more wastes and pollution as byproducts of urban development. Dealing with the varied challenges to Ontario's drinking and recreational water quality requires a comprehensive, long-term approach. LifeLines is a multi-year strategy that integrates new capital works initiatives and existing water pollution abatement programs into one cohesive program to deliver clean water to consumers and protect water quality.

LifeLines is a six-point plan of action which includes:

- monitoring and surveillance of raw and treated water;
- studies and investigations, including inland lake water quality studies, beach cleanup studies, beach water pollution source surveys;
- development of pollution control plans by municipalities to determine effective means of controlling pollution;
- capital works: water/sewage infrastructure studies and repair;
- capital works: sewer separation and combined sewer overflow control/ stormwater treatment; and
- regulation and enforcement.

Rebuilding Ontario's water and sewer life lines.

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The Importance of Municipal Infrastructure

A significant component of LifeLines is a new assistance program to assess and rehabilitate Ontario's water distribution and sewage collection systems. Water mains, sewers, and water and sewage treatment facilities are vital components of Ontario's water service system. Roads, bridges, and sidewalks make up the other elements of municipal infrastructure.

While often overlooked, and clearly unglamorous, infrastructure is the fabric that binds modern urban economies together. Industrial growth and diversification depend on the ability of infrastructure systems to serve new and expanded facilities.

On a more personal level, a well-maintained infrastructure is the mainstay of urban life. It provides us with good communications, clean streets and access to waste disposal and ample clean water.

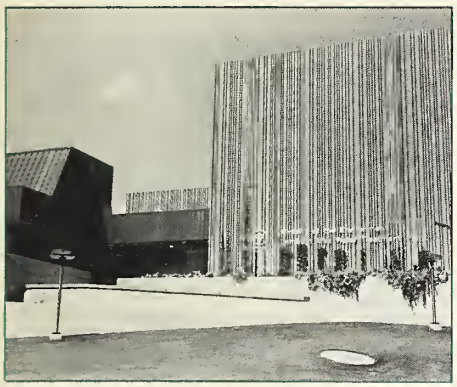
Assisting the Municipalities

Under LifeLines, Ontario will provide municipalities with financial assistance for studies, pollution control plans and capital works projects. Depending on a municipality's need, these grants will cover no less than one third of the rehabilitation costs involved and no less than half of the study costs.

New provincial spending is projected to rise from $11 million in the first year to an amount of $50 to $60 million annually as studies, rehabilitation and improvement works are undertaken.

The Ontario Ministry of the Environment has identified the following goals to be undertaken by municipalities to achieve desired objectives:

- completion of an inventory and needs study to identify problems and to develop a multi-year program for rehabilitation and pollution remedial works;
- enactment and enforcement of municipal bylaws to control the discharge of wastes to local sewers and to limit water wastage; and
- establishment of a local reserve fund to ensure that sufficient maintenance and long-term rehabilitation programs will be carried out, with a reduced need for senior government assistance.



The Need for Multi-Level Government Co-operation

With LifeLines, the Government of Ontario takes on a considerable financial burden that will continue well into the future. To ensure a long-term commitment to the needed works included in the strategy, it is essential that all levels of government share the multi-billion dollar cost of protecting Ontario's water resources.

The federal government has a long history of financial contribution to the development of Ontario's water and sewage systems. Most recently, the Canada-Ontario water quality agreement was renewed to continue reducing phosphorus loadings to the Great Lakes.

Many of Ontario's waterways are transboundary in nature. The federal government has signed international agreements pledging to clean them up. The federal government therefore has an obligation to share the cost of the pollution cleanup.

At the October 1985 meeting of the Canadian Council of Resource and Environment Ministers, it was agreed that the federal government could enter into bilateral funding with the provinces. Although no commitment has been made, Ontario is still pressing Ottawa to invest in water and sewage infrastructure.

Ontario cannot afford to let decaying infrastructure threaten the very basis of Ontario's health, well-being and economic strength. With LifeLines, Ontario is acting to renew infrastructures and to provide safe and clean water to the people of this Province.

How Does Infrastructure Affect Water Quality?

In some cases, waterways are contaminated by poorly treated sewage from overloaded treatment facilities, or by leaks from aging sewer pipes. Public health may be put at risk by deteriorating water mains.

Much of Ontario's multi-billion dollar investment in underground sewer and water mains was made forty or more years ago. Many of these facilities are now in need of expansion, upgrading and rehabilitation. Inadequately maintained or poorly operated facilities built in the 1940's, for example, can discharge improperly treated sewage into lakes and rivers.

Combined sanitary and storm sewer systems can also overload sewage treatment facilities. During heavy rainfall, storm water may overflow the sewer system putting an excessive demand on treatment plants and causing untreated or partially treated sewage to overflow into waterways.

Urban stormwater runoff into lakes and rivers is another source of surface water contamination. This is particularly true in areas of concentrated industrial and commercial activity, where urban stormwater can pick up a variety of sediments, nutrients, and metals.

Other Pollution Sources

In rural areas, direct livestock access to waterways, and agricultural runoff from manure storage, farmyard and feed lot drains, and subsurface tile drainage can also contribute to water pollution.

Industries that discharge untreated effluent — sometimes containing toxic chemicals — into lakes and rivers are another source of water pollution in Ontario.

The Need for Action

Bacterial contamination from inadequate sewage systems and urban and rural runoff has put as many as 50 Ontario beaches at risk of being closed every summer.

Water quality degradation from various nutrients, sediments and metals in stormwater runoff also affects lake aquatic life. Excessive nutrients in a lake will affect sport fish while increasing the numbers of less desirable species. It can also make water murky and unappealing for recreational use.

Mineral deposits and corrosion in aging water mains along with loss of water and infiltration problems can result in loss and contamination of drinking water.

In addition, toxic contamination from industries discharging wastes directly into our waterways can place our sources of drinking water at risk. The current Drinking Water Surveillance Program (DWSP) is helping to determine the extent of this problem.

Industrial loadings also have a serious detrimental effect on lake aquatic and plant life and can contaminate sports fish, making them unsuitable for consumption. Under the new Municipal and Industrial Strategy for Abatement (MISA), industrial discharges into our waterways will be assessed, monitored and reduced.

Along with the obvious environmental and potential health risks, the pollution of our waterways carries important economic costs. Swimming and fishing are two of the most vital attractions of the Ontario tourist industry — an industry which supported over 380,000 jobs in 1984. In the same year, over $900 million was spent on aquatic-based activity in Ontario. These important sources of jobs and revenue are put directly at risk by the degradation of Ontario's lakes, rivers and streams.

Studies show that if infrastructure is in good condition, the amount of wastewater going through treatment facilities can be reduced by 20%, reducing the danger of overflows and improper treatment.

It is also important to note that the actual financial costs of necessary infrastructure renewal will be much less if rehabilitation is begun today. It is estimated that repair costs are 50 to 70 per cent less than the full replacement costs required when systems are neglected and allowed to deteriorate beyond repair.

In addition, new capital expenditures on water and sewage system construction projects will help bolster employment. It has been estimated that every $1 million spent on design and construction of these projects in Ontario generates 15 direct jobs per year and approximately 30 more indirect jobs.

Implementing LifeLines

Emphasis initially will be placed on the completion of rehabilitation needs studies and municipal pollution control plans. These will be undertaken by municipalities over the next three to five years to set priorities for capital works projects down the road.

The first years of the multi-year strategy will also emphasize protection and improvement of beaches and recreational waters. It will thus incorporate and further develop existing Environment Ontario programs for monitoring water quality.

LifeLines and current Ministry of the Environment programs, such as DWSP and MISA, will provide the necessary information to strengthen and enforce Ontario regulations protecting our water resources.

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